

## Migration Highlights ♦ Second Quarter 1998

The population of British Columbia had surpassed the 4 million mark by March 1, 1998, according to new estimates released by Statistics Canada. These estimates incorporate information from the 1996 Census plus an adjustment for net census undercount (see the article which follows for further detail about the adjustment).

In the past three quarters the growth of the provincial population has slowed considerably, with the annual increase at July 1, 1998 registering 1.3%. There has been a steady slowing in the growth of the population since mid-1994 — the annual increase at that time was 3.1%.

During the second quarter of 1998, B.C. gained a total of 3,306 persons as a result of net migration from **all sources**. This compares to an increase of 13,000 in the second quarter of 1997. Both international and interprovincial migration contributed to the large decline in the second quarter.

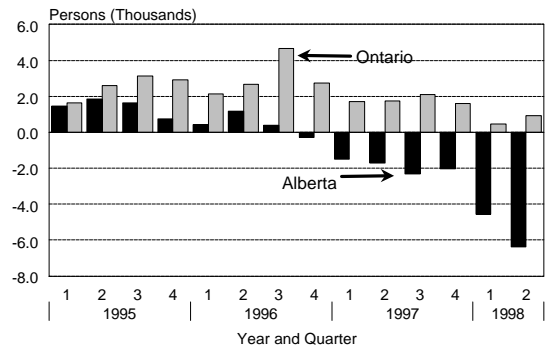
Net **international** migration to the province was much lower than in the same quarter of last year, with a net inflow of 8,231 persons. Immigration to many other parts of the country was also down in the second quarter, with the result that B.C.'s share of Canadian immigration remained high (21.6%).

On a seasonally adjusted basis, net international migration increased marginally in the second quarter of 1998, following declines in the previous five quarters.

For the second quarter in a row B.C. had a net outflow of people to **the rest of Canada**, with a loss of 4,925 persons in the latest quarter. Both more people leaving B.C. to move to other provinces and fewer people coming to B.C. from other provinces contributed to the net outflow.

On a seasonally adjusted basis, net interprovincial migration fell to the lowest level on record.

### Larger net flows of people from B.C. to Alberta in the second quarter.



BC STATS

The net outflow of people from B.C. to Alberta jumped to 6,392 persons in the second quarter of 1998. The net inflow from Ontario (931) and the rest of the country (536) remained small. The last time that a net interprovincial migration loss occurred was during the mid-1980s. However, during that period the outflows were mainly to Ontario rather than Alberta.

#### Population Growth

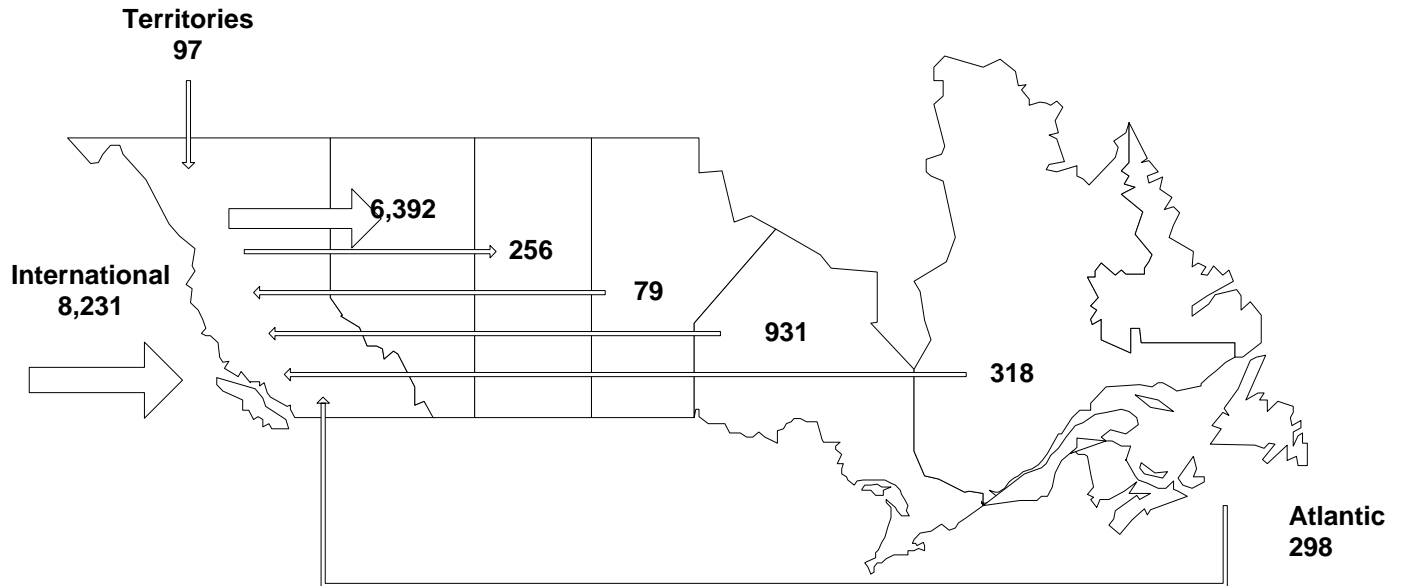
Second Quarter 1998 (000s)

<b>Population: Apr 1, 1998</b>	4,004.8
Plus Interprovincial Arrivals	15.9
Minus Interprovincial Departures	20.8
Plus Immigrants	9.9
Minus Emigrants	1.6
Net Non-Permanent Residents	0.8
Plus Returning Canadians	0.8
Plus Births	11.9
Minus Deaths	7.2
<b>Population: Jul 1, 1998</b>	<b>4,014.3</b>

Note: The estimates for non-permanent residents for 1998 are based on very preliminary data and as such are subject to change.

## Net Population Movement For British Columbia

Apr 1998 to Jun 1998  
Net Inflow : 3,306 Persons



**Table 1**  
**Provincial Migration Flow**  
**Apr 1998 to Jun 1998**

Origin	Destination											
	Nfld	PEI	NS	NB	Que	Ont	Man	Sask	Alta	BC	Yukon	NWT
Nfld	-	98	564	251	128	2,234	42	84	1,850	284	49	185
PEI	11	-	200	154	62	242	52	13	121	86	0	0
NS	423	212	-	985	150	2,401	122	79	1,362	604	48	53
NB	148	98	895	-	682	1,374	82	100	912	369	0	10
Que	89	34	293	645	-	8,853	117	144	1,432	1,116	0	120
Ont	1,066	265	1,798	1,143	4,699	-	1,798	659	5,213	5,239	48	174
Man	52	22	128	66	79	1,514	-	1,104	2,135	1,119	5	16
Sask	59	0	75	66	84	846	941	-	4,623	1,037	24	101
Alta	621	106	422	331	318	2,927	1,102	3,357	-	5,593	144	226
BC	220	64	550	211	798	4,308	1,040	1,293	11,985	-	234	133
Yukon	16	0	6	0	16	69	27	78	311	314	-	12
NWT	62	0	75	8	35	108	130	80	711	150	32	-
<b>In-Flow</b>	2,767	899	5,006	3,860	7,051	24,876	5,453	6,991	30,655	15,911	584	1,030
<b>Out-Flow</b>	5,769	941	6,439	4,670	12,843	22,102	6,240	7,856	15,147	20,836	849	1,391
<b>Net Interprovincial</b>	-3,002	-42	-1,433	-810	-5,792	2,774	-787	-865	15,508	-4,925	-265	-361
<b>Net International</b>										8,231		
<b>Total Net</b>										3,306		

Source: Statistics Canada.  
Prepared by: Population Section, BC STATS  
September 28, 1998

**Table 2  
Quarterly Components of Population Change for British Columbia**

Year	Quarter	Migration						Total Migration	Net N.P.R.	Returning Canadians	Natural Increase			Total Increase	Population		
		Interprovincial		Net	International		Net				Births	Deaths	Natural Increase		Total Increase	Population at End of Period	Annual Growth Rate (%)
		In	Out		Immigration	Emigration											
1991	1	10,744	6,712	4,032	6,739	1,100	5,639	9,671	(1,115)	535	10,889	5,979	4,910	14,001	3,352,560	2.6	
1991	2	18,183	10,675	7,508	8,216	1,691	6,525	14,033	(615)	840	11,911	6,034	5,877	20,135	3,373,399	2.5	
1991	3	30,062	14,493	15,569	8,325	2,705	5,620	21,189	436	1,211	11,990	5,611	6,379	29,215	3,404,523	2.5	
1991	4	15,470	8,007	7,463	8,795	1,449	7,346	14,809	(2,320)	718	10,822	6,353	4,469	17,676	3,424,109	2.6	
	Total	74,459	39,887	34,572	32,075	6,945	25,130	59,702	(3,614)	3,304	45,612	23,977	21,635	81,027			
1992	1	13,061	6,829	6,232	7,692	1,411	6,281	12,513	475	630	11,270	6,409	4,861	18,479	3,444,498	2.7	
1992	2	19,102	10,362	8,740	9,627	1,362	8,265	17,005	71	758	11,973	5,908	6,065	23,899	3,470,307	2.9	
1992	3	30,606	14,068	16,538	10,088	2,498	7,590	24,128	988	1,266	11,978	5,927	6,051	32,433	3,504,650	2.9	
1992	4	15,827	7,759	8,068	9,291	1,433	7,858	15,926	(2,253)	733	10,935	6,371	4,564	18,970	3,525,529	3.0	
	Total	78,596	39,018	39,578	36,698	6,704	29,994	69,572	(719)	3,387	46,156	24,615	21,541	93,781			
1993	1	13,321	6,639	6,682	9,833	1,360	8,473	15,155	(1,690)	619	11,087	7,196	3,891	17,975	3,545,414	2.9	
1993	2	19,009	10,198	8,811	11,494	1,449	10,045	18,856	(1,185)	706	11,959	6,135	5,824	24,201	3,571,525	2.9	
1993	3	27,423	13,647	13,776	13,990	2,543	11,447	25,223	356	1,302	11,887	5,949	5,938	32,819	3,606,254	2.9	
1993	4	15,474	7,148	8,326	10,394	1,476	8,918	17,244	(1,898)	747	11,093	6,484	4,609	20,702	3,628,866	2.9	
	Total	75,227	37,632	37,595	45,711	6,828	38,883	76,478	(4,417)	3,374	46,026	25,764	20,262	95,697			
1994	1	13,417	7,399	6,018	11,779	1,415	10,364	16,382	(194)	627	11,195	6,832	4,363	21,178	3,651,953	3.0	
1994	2	20,235	10,484	9,751	13,103	1,504	11,599	21,350	(208)	709	12,247	6,211	6,036	27,887	3,681,750	3.1	
1994	3	25,655	13,216	12,439	15,210	2,607	12,603	25,042	1,809	1,314	12,249	6,144	6,105	34,270	3,717,930	3.1	
1994	4	15,204	8,963	6,241	8,957	1,545	7,412	13,653	(1,244)	766	11,307	6,752	4,555	17,730	3,737,570	3.0	
	Total	74,511	40,062	34,449	49,049	7,071	41,978	76,427	163	3,416	46,998	25,939	21,059	101,065			
1995	1	12,991	8,654	4,337	9,840	1,475	8,365	12,702	979	643	11,226	6,961	4,265	18,589	3,758,069	2.9	
1995	2	16,933	10,659	6,274	11,809	1,580	10,229	16,503	1,011	733	12,218	6,435	5,783	24,030	3,784,008	2.8	
1995	3	21,889	14,530	7,359	12,475	2,698	9,777	17,136	2,387	1,324	12,386	6,231	6,155	27,002	3,812,920	2.6	
1995	4	15,292	9,848	5,444	10,156	1,528	8,628	14,072	739	776	10,990	6,748	4,242	19,829	3,834,659	2.6	
	Total	67,105	43,691	23,414	44,280	7,281	36,999	60,413	5,116	3,476	46,820	26,375	20,445	89,450			
1996	1	12,402	8,785	3,617	12,200	1,447	10,753	14,370	1,777	667	11,550	7,208	4,342	21,156	3,857,725	2.7	
1996	2	17,376	11,771	5,605	12,964	1,551	11,413	17,018	124	759	11,927	6,783	5,144	23,045	3,882,043	2.6	
1996	3	24,904	17,259	7,645	14,735	2,769	11,966	19,611	0	1,315	11,783	6,305	5,478	26,404	3,908,447	2.5	
1996	4	14,725	10,927	3,798	12,178	1,606	10,572	14,370	(1,796)	765	10,878	7,240	3,638	16,977	3,925,424	2.4	
	Total	69,407	48,742	20,665	52,077	7,373	44,704	65,369	105	3,506	46,138	27,536	18,602	87,582			
1997	1	13,884	12,731	1,153	13,309	1,566	11,743	12,896	976	649	11,540	7,510	4,030	18,551	3,943,975	2.2	
1997	2	18,069	16,378	1,691	12,971	1,662	11,309	13,000	865	735	12,095	6,925	5,170	19,770	3,963,745	2.1	
1997	3	22,510	18,892	3,618	12,781	2,813	9,968	13,586	411	1,355	12,280	6,670	5,610	20,962	3,984,707	2.0	
1997	4	10,297	9,665	632	8,795	1,613	7,182	7,814	(1,472)	787	10,965	7,100	3,865	10,994	3,995,701	1.8	
	Total	64,760	57,666	7,094	47,856	7,654	40,202	47,296	780	3,526	46,880	28,205	18,675	70,277			

**Table 2**  
**Quarterly Components of Population Change for British Columbia**

Year	Quarter	Migration						Natural Increase			Total	Population				
		Interprovincial		International		Total Net Migration	Net N.P.R.	Returning Canadians	Births	Deaths	Natural Increase	Total Increase	Population at End of Period	Annual Growth Rate (%)		
		In	Out	Net Immigration	Emigration											
1998	1	12,654	16,209	(3,555)	9,097	1,543	7,554	3,999	981	675	11,115	7,700	3,415	9,070	4,004,771	1.5
1998	2	15,911	20,836	(4,925)	9,878	1,647	8,231	3,306	840	767	11,885	7,240	4,645	9,558	4,014,329	1.3
1998	3															
1998	4															
	Total	28,565	37,045	(8,480)	18,975	3,190	15,785	7,305	1,821	1,442	23,000	14,940	8,060	18,628		

Prepared by: Population Section, BC STATS.

Date: 28-Sep-98

Source: Statistics Canada -- CANSIM.

Note: Net N.P.R. - Net change in the number of Non-Permanent Residents.  
All figures subject to revision.

**Table 3**  
**Quarterly Components of Change Per 1000 Population for British Columbia**

Year	Quarte	Migration						Natural Increase			Total	Population				
		Interprovincial		International		Net Migration	Net Returning N.P.R.	Canadian	Births	Deaths	Natural Increase	Total Increase	Population at End of Period	Annual Growth Rate (%)		
		In	Out	Immigration	Emigration											
1991	1	3.2	2.0	1.2	2.0	0.3	1.7	2.9	-0.3	0.2	3.2	1.8	1.5	4.2	3,352,560	2.6
1991	2	5.4	3.2	2.2	2.4	0.5	1.9	4.2	-0.2	0.2	3.5	1.8	1.7	6.0	3,373,399	2.5
1991	3	8.8	4.3	4.6	2.4	0.8	1.7	6.2	0.1	0.4	3.5	1.6	1.9	8.6	3,404,523	2.5
1991	4	4.5	2.3	2.2	2.6	0.4	2.1	4.3	-0.7	0.2	3.2	1.9	1.3	5.2	3,424,109	2.6
1992	1	3.8	2.0	1.8	2.2	0.4	1.8	3.6	0.1	0.2	3.3	1.9	1.4	5.4	3,444,498	2.7
1992	2	5.5	3.0	2.5	2.8	0.4	2.4	4.9	0.0	0.2	3.5	1.7	1.7	6.9	3,470,307	2.9
1992	3	8.7	4.0	4.7	2.9	0.7	2.2	6.9	0.3	0.4	3.4	1.7	1.7	9.3	3,504,650	2.9
1992	4	4.5	2.2	2.3	2.6	0.4	2.2	4.5	-0.6	0.2	3.1	1.8	1.3	5.4	3,525,529	3.0
1993	1	3.8	1.9	1.9	2.8	0.4	2.4	4.3	-0.5	0.2	3.1	2.0	1.1	5.1	3,545,414	2.9
1993	2	5.3	2.9	2.5	3.2	0.4	2.8	5.3	-0.3	0.2	3.3	1.7	1.6	6.8	3,571,525	2.9
1993	3	7.6	3.8	3.8	3.9	0.7	3.2	7.0	0.1	0.4	3.3	1.6	1.6	9.1	3,606,254	2.9
1993	4	4.3	2.0	2.3	2.9	0.4	2.5	4.8	-0.5	0.2	3.1	1.8	1.3	5.7	3,628,866	2.9
1994	1	3.7	2.0	1.6	3.2	0.4	2.8	4.5	-0.1	0.2	3.1	1.9	1.2	5.8	3,651,953	3.0
1994	2	5.5	2.8	2.6	3.6	0.4	3.2	5.8	-0.1	0.2	3.3	1.7	1.6	7.6	3,681,750	3.1
1994	3	6.9	3.6	3.3	4.1	0.7	3.4	6.7	0.5	0.4	3.3	1.7	1.6	9.2	3,717,930	3.1
1994	4	4.1	2.4	1.7	2.4	0.4	2.0	3.7	-0.3	0.2	3.0	1.8	1.2	4.7	3,737,570	3.0
1995	1	3.5	2.3	1.2	2.6	0.4	2.2	3.4	0.3	0.2	3.0	1.9	1.1	4.9	3,758,069	2.9
1995	2	4.5	2.8	1.7	3.1	0.4	2.7	4.4	0.3	0.2	3.2	1.7	1.5	6.4	3,784,008	2.8
1995	3	5.7	3.8	1.9	3.3	0.7	2.6	4.5	0.6	0.3	3.2	1.6	1.6	7.1	3,812,920	2.6
1995	4	4.0	2.6	1.4	2.6	0.4	2.3	3.7	0.2	0.2	2.9	1.8	1.1	5.2	3,834,659	2.6
1996	1	3.2	2.3	0.9	3.2	0.4	2.8	3.7	0.5	0.2	3.0	1.9	1.1	5.5	3,857,725	2.7
1996	2	4.5	3.0	1.4	3.3	0.4	2.9	4.4	0.0	0.2	3.1	1.7	1.3	5.9	3,882,043	2.6
1996	3	6.4	4.4	2.0	3.8	0.7	3.1	5.0	0.0	0.3	3.0	1.6	1.4	6.8	3,908,447	2.5
1996	4	3.8	2.8	1.0	3.1	0.4	2.7	3.7	-0.5	0.2	2.8	1.8	0.9	4.3	3,925,424	2.4
1997	1	3.5	3.2	0.3	3.4	0.4	3.0	3.3	0.2	0.2	2.9	1.9	1.0	4.7	3,943,975	2.2
1997	2	4.6	4.1	0.4	3.3	0.4	2.9	3.3	0.2	0.2	3.1	1.7	1.3	5.0	3,963,745	2.1
1997	3	5.6	4.7	0.9	3.2	0.7	2.5	3.4	0.1	0.3	3.1	1.7	1.4	5.3	3,984,707	2.0
1997	4	2.6	2.4	0.2	2.2	0.4	1.8	2.0	-0.4	0.2	2.7	1.8	1.0	2.8	3,995,701	1.8
1998	1	3.2	4.0	-0.9	2.3	0.4	1.9	1.0	0.2	0.2	2.8	1.9	0.9	2.3	4,004,771	1.5
1998	2	4.0	5.2	-1.2	2.5	0.4	2.1	0.8	0.2	0.2	3.0	1.8	1.2	2.4	4,014,329	1.3
1998	3															
1998	4															

Prepared by: Population Section, BC STATS.

Date: 28-Sep-98

Source: Statistics Canada -- CANSIM.

Note: Net N.P.R. - Net change in the number of Non-Permanent Residents.  
All figures subject to revision.

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## Feature Article: How many people were missed in the Census?

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### Summary

*In each census, some Canadian residents are missed and some are counted more than once. Starting with the 1991 Census, Statistics Canada made the decision to adjust the official population estimates to include a measure of net census undercoverage (persons missed less persons counted more than once). The population estimates in this report are based on information from the 1996 Census, adjusted for net census undercoverage.*

After each census, Statistics Canada undertakes an extensive evaluation of the quality of the census using statistical methods to assess the coverage of the census. These coverage studies consist of the Reverse Record Check, which primarily measures **undercoverage**, and the Automated Match and Collective Dwellings studies, which measure overcoverage.

People are missed in the census for numerous reasons - households, such as those in secondary suites that are difficult for the enumerators to locate, difficulties in understanding the questionnaire, uncertainty about whether to include someone in a household, persons with no usual residence and a few people who refuse to participate in the census.

The Reverse Record Check (RRC) study selects a sample of approximately 57,000 Canadian residents, who should have been enumerated in the 1996 Census. These persons are selected from the following sources:

- persons enumerated in the 1991 Census;
- persons born between the 1991 and 1996 Censuses;
- immigrants who entered Canada between the 1991 and 1996 Censuses;
- persons who were not enumerated in the 1991 Census, as identified from the 1991 RRC;
- persons on work, student or ministerial permits and refugee claimants, who were in Canada on Census day (May 14, 1996);
- persons on Territorial Health Care Files (for Yukon and NWT only).

The sample represents the same target population as the census, but is obtained in such a manner as to be independent of the census itself. For each person selected in the sample, it must be determined if the person was enumerated in the 1996 Census, if so how many times and if not why not (e.g. the person died, left the country, was missed by the census,...). The RRC is a comprehensive record linkage and matching procedure, which systematically traces all persons in its sample, interviews them to obtain a census day address, and matches these persons to individual census documents.

**Overcoverage** in the census occurs when persons in the census target population are counted more than once, and when persons not in the target population (e.g. foreign residents, fictitious persons or pets) are enumerated. The first type of overcoverage can occur when a respondent fills out two census forms at different dwellings or when two census questionnaires are delivered to the same household.

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## Feature Article: How many people are missed in the Census?

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The Automated Match Study (AMS) is designed to detect pairs of similar households, based on the number of persons matched between households (same sex and date of birth), the size of the two households and their relative proximity. Once pairs of similar households are detected, the census questionnaires for a sample of them are verified manually to determine the amount of overcoverage.

The Collective Dwelling Study (CDS) measures overcoverage of persons who are enumerated in both a private dwelling and also in a collective dwelling, such as a hospital, a hotel, or a student residence.

In addition to the AMS and CDS, overcoverage can also be detected by the RRC study.

There is another category of missed, which the RRC can not adequately measure, namely **incompletely enumerated Indian reserves** and Indian settlements, where enumeration was not permitted or was interrupted before it could be completed, or where the quality of the data was considered inadequate. A regression model is used to estimate this category of missed people.

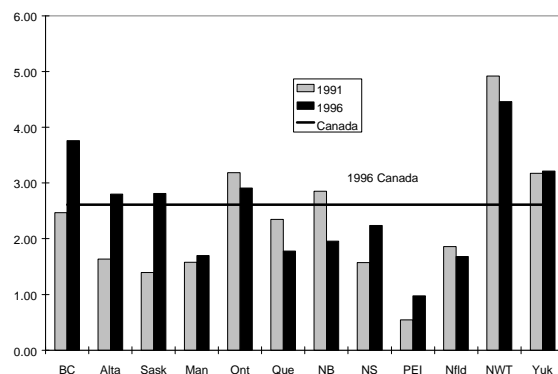
There are two other categories in which people may be missed, but for which there are no adequate estimates:

- **Returning emigrants**, Canadian citizens or landed immigrants who emigrated before the 1991 Census and returned to Canada to take up permanent residence prior to the 1996 Census;

- **Temporarily abroad**, Canadian citizens or landed immigrants who were temporarily abroad in 1991, did not have a usual place of residence in Canada, and returned to Canada prior to the 1996 Census.

The following chart and table show the results of the 1996 Census coverage studies, as released by Statistics Canada on September 24, 1998. The 1991 net undercoverage rate is also shown for comparison purposes. Note that this rate has been revised from that previously published as a result of information obtained from the 1996 coverage studies.

**In 1996 B.C. had a high undercoverage rate.**



The estimates indicate that in 1996 British Columbia had a net undercoverage rate that was much higher than that of other provinces and territories with the exception of NWT. This situation is not unique, as in most censuses B.C. has had a higher than average proportion of the population that was missed. Some of the factors that may contribute to the high rate are the remoteness of some areas of the province, the high mobility of the population and the large number of recent immigrants, in particular those from non-English speaking countries. All of these factors tend to make the

## Feature Article: How many people were missed in the Census?

population more difficult to locate and enumerate successfully.

From the table below it can be seen that the Census of 1991 was somewhat of an anomaly. The net undercount for B.C. was about the same as the national average, while in 1981, 1986 and 1996 the rates were relatively high. This may be partially a result of a special census undercount project that was initiated jointly by the province and Statistics Canada prior to the 1991

Census. The purpose of this project was to improve the coverage of the census itself by developing an address file of dwellings using administrative records from many sources and also by compiling better geographical information on the location of addresses. A similar project was not undertaken for the 1996 Census and the higher undercoverage rate may be part of the consequences.

**Estimated Census Coverage Error (%)**

	1996			1991	1986	1981
	Gross Undercoverage	Gross Overcoverage	Net Undercoverage	Net undercoverage		
<b>British Columbia</b>	<b>4.65</b>	<b>0.89</b>	<b>3.76</b>	<b>2.47</b>	<b>3.25</b>	<b>2.20</b>
Alberta	3.39	0.59	2.80	1.63	2.18	1.62
Saskatchewan	3.36	0.55	2.81	1.40	1.59	0.47
Manitoba	2.58	0.88	1.69	1.57	2.25	0.55
Ontario	3.58	0.67	2.91	3.18	2.49	1.29
Quebec	2.63	0.85	1.78	2.35	2.04	1.23
New Brunswick	2.55	0.59	1.96	2.85	1.92	1.18
Nova Scotia	2.70	0.47	2.24	1.57	1.46	0.60
PEI	1.89	0.91	0.97	0.55	1.43	0.70
Newfoundland	2.45	0.77	1.68	1.86	1.31	1.09
NWT	5.66	1.20	4.46	4.92	4.60	3.12
Yukon	3.92	0.70	3.22	3.17	3.25	1.96
Canada	3.35	0.74	2.61	2.52	2.31	1.31

Source: Statistics Canada

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